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EXAMINER

PHUNKULH, BOB A

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/753,004

Applicant(s)

VENKATARAMAN ET AL.

Examiner

Bob A. Phunkulh

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/12/07.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This communication is in response to applicant's 11/05/2007 amendment/responses in the application of **VENKATARAMAN et al.** for "**METHOD AND APPARATUS FOR CLEARING A LARGE NUMBER OF CONNECTIONS IN AN ATM NETWORK**" filed 12/19/2000. The amendments/response to the claims have been entered. No claims have been canceled. No claims have been added. Claims 1-58 are now pending.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 37-51 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed subject matter "machine-readable medium" is directed toward a signal per se. When a computer program is recorded on a medium i.e. electrical, optical, acoustical or other form of propagated signals (such as carrier waves, infrared signals and digital signals, see page 8 of applicant's specification), it is not statutory since a signal does not fall within one of the four statutory classes of § 101 (process, machine, compositions of matter, and manufactures).

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at

112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-15, 18-20, 26-30, 32-45, 48-49, 51-55, 57-58 are rejected under 35 U.S.C. 102(e) as being anticipated by NISHIKADO et al. (US 6,366,582), hereinafter NISHIKADO .

Regarding claim 1, NISHIKADO discloses a method comprising:

clearing of a plurality of first connections between a first node (between at least two exchanges) and a second node of an ATM network from the first node; and

for each the clearing, sending a first message (RELEASE message) comprising a signal bulk release message from the first node to the second containing an identification of the first connections (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-

consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 2).

Regarding claim 2, NISHIKADO discloses receiving the first message at the second node; clearing the first connections from the second node in response to the received first message; and sending a single second message from the second node to the first node in response to at least one of clearing the first connections from the second node and receiving the first message identifying at least one of the connections cleared in response to the received first message, and the first message (a connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 26-62).

Regarding claim 3, NISHIKADO inherently discloses enabling an interpretation of the received first message wherein the clearing from the second node depends upon the enabling (in order to receive data/messages both the exchanges or nodes must be enable).

Regarding claim 6, NISHIKADO discloses a method comprising:

receiving a first message comprising a single bulk release message by a first node of an ATM network from a second node of the ATM network connected to the first node by at least one first connections;

clearing the first connections from the second node in response to receiving the first message (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 2); and

sending a second message from the first node to the second node identifying at least one of the first connections cleared from the second node and the first message (see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-44).

Regarding claim 7, NISHIKADO inherently discloses enabling an interpretation of the received first message wherein the clearing from the second node depends upon the enabling (enabling is inherent feature since the exchanges need ability to identify the release message for the identified connection group).

Regarding claim 8, NISHIKADO discloses including clearing the first connections from the second node; and wherein the first message includes an identification of the first connections (a connection switching exchange is requested to set up or release

logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 26-62).

Regarding claim 9, NISHIKADO discloses a method of clearing a plural number of connections between a first node and a second node in an Asynchronous Transfer Mode network including:

sending at least one first message from the first node to the second node, each first message including an identification of at least one of each of a plural number of first connections to be cleared from the second node by the first message (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 1), and

each of a plural number of first connections that is one of cleared from the first node and to be cleared from the first node ( see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-44).

Regarding claim 10, NISHIKADO discloses for each the first message, clearing from the first node each the first connection (a connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 26-62).

Regarding claim 11, NISHIKADO discloses the first message is consistent with an Asynchronous Transfer Mode formatted message (*release message is consistent with the ATM format*, abstract).

Regarding claim 12, NISHIKADO discloses enabling the first node to send the first message before the sending (in order to receive data/messages both the exchanges or nodes must be enable).

Regarding claim 13, NISHIKADO discloses sending is in response to a requirement for a clearing of a plural number of first node connections (see col. 8 lines 12-42).

Regarding claim 14, NISHIKADO discloses sending is in response to an event that includes at least one of

- a received Physical interface reset command,
- a received Virtual interface reset command,
- a received Datalink Layer Service-Specific Connection-Oriented Protocol reset,
- a received Global path ATM Forum defined RESTART message,
- a received Virtual Path ATM Forum defined RESTART message,
- a received plural number of RELEASE messages, and
- a received Force Reroute in a Semi-Permanent Switched Virtual Circuit based



network (a request for release, see col. 8 lines 12-42).

Regarding claim 15, NISHIKADO discloses the first message includes at least an identification of each of the first connections to be cleared from the second node, and further including:

the second node receiving the first message, and  
the second node clearing each of the connections in the second node identified as to be cleared from the second node in the first message in response to receiving the first message (see col. 8 lines 12-42).

Regarding claim 18, NISHIKADO inherently discloses enabling the second node to receive the first message before the receiving (in order to receive data/messages both the exchanges or nodes must be enable).

Regarding claim 19, NISHIKADO inherently discloses sending at least one of a second message to the first node identifying the connections cleared by the second node in response to the second node receiving the first message, and a second message to the first node identifying the first message received by the second node (it is well know in the art that the release complete message is sent from the second exchange to the first exchange in response to the release message, see admitted prior art pages 1-2).

Regarding claim 20, NISHIKADO inherently discloses enabling the second node to send the first message before the sending (in order to receive data/messages both the exchanges or nodes must be enable).

Regarding claim 26, NISHIKADO inherently discloses enabling the first node to send the second message before the sending (in order to received the release complete message the first exchange must be enable).

Regarding claim 27, NISHIKADO discloses an Asynchronous Transfer Mode (ATM) node that includes

a first circuit that generates an inter-nodal call control first message comprising a single bulk release message containing an identification of at least one of

each of a plural number of first connections to be cleared at an ATM first node to be coupled to the ATM node, and

each of a plural number of first connections that is one of cleared from the ATM node and to be cleared from the ATM node (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 2); and

a second circuit to transmit the first message to the first node (see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-44, figure 1).

Regarding claim 28, NISHIKADO discloses a circuit to enable one of the generation of the first message and the transmission of the first message, in response to an input if the ATM node was disabled; and to disable the ATM node from one of the generation of the first message and the transmission of the first message in response to an input if the ATM node was enabled (in order to received the release complete message the first exchange must be enable; and a connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 29, NISHIKADO discloses a circuit to clear each of the first connections (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 30, NISHIKADO discloses a circuit to receive a second message containing an identification of at least one of each of a plural number of second connections that is one of cleared from a first node and to be cleared from the first Node (the RELEASE COMPLETE message, see pages 1 and 2).

Regarding claim 32, NISHIKADO discloses a circuit to receive and interpret a second message from a coupled second node that contains an identification of a plural number of second connections; and a circuit to clear the second connections from the ATM node A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 33, NISHIKADO discloses a circuit to send a third message from the ATM node to the second node that identifies a plural number of third connections, the third connections characterized by at least one of the connections cleared by the ATM node in response to the second message, and the second connections A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 34, NISHIKADO discloses An Asynchronous Transfer Mode (ATM) node (the ATM exchange) that includes

a first circuit to receive and interpret a first message from a first node (another ATM exchange receives the release request from a terminating node, see col. 8 lines 12-42) that contains an identification of a plural number of first connections (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57;

Art Unit: 2619

and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 1); and

a second circuit to clear the first connections from the ATM node (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54, see figure 1).

Regarding claim 35, NISHIKADO inherently discloses a third circuit to send an ATM inter-nodal call control second message from the ATM node to the first node that identifies a plural number of second connections, the second connections characterized by at least one of the connections cleared by the ATM node in response to the first message, and the first connections (Logical connections in the communication network are thus controlled in a uniform manner as a connection group or a plurality of connection groups. Even a logical connection passing through a plurality of connection switching exchanges has only one connection identifier. A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 36, NISHIKADO inherently discloses a circuit to enable the first circuit to interpret the first message in response to an enabling input (in order to receive data/messages both the exchanges or nodes must be enable).

Regarding claim 44, NISHIKADO discloses a machine-readable medium that provides instructions, which when executed by at least one processor (inherent feature in the ATM first node), cause the processor to perform operations comprising

preparing at least one first message comprising a single bulk release message to be sent from a first node of an ATM network (the first exchange 1-1, see figures 1 and 2) to a second node of an ATM network (the second exchange 1, see figures 1 and 2), each first message including an identification of a first connections to be cleared from the second node by the first message (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 1).

Regarding claim 45, NISHIKADO discloses for each the first message, clearing from the first node each the first connection (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 48, NISHIKADO discloses the first message is consistent with an Asynchronous Transfer Mode formatted message (see abstract).

Regarding claim 49, NISHIKADO discloses interpreting a second message consistent with an Asynchronous Transfer Mode formatted message received from an ATM network node wherein the second message includes an identification of each of a plural number of connections to be cleared from the first node (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 50, NISHIKADO discloses clearing each of the connections in the first node identified as to be cleared in the second message in response to interpreting the second message (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62).

Regarding claim 51, NISHIKADO discloses preparing at least one of a third message to the ATM network node identifying the connections cleared by the first node in response to the first node interpreting the second message, and a third message to the ATM network node identifying the second message received by the first

Art Unit: 2619

node (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62; and it is well known in the art that the release complete message is sent from the second exchange to the first exchange in response to the release message, see admitted prior art pages 1-2).

Regarding claim 52, NISHIKADO discloses an Asynchronous Transfer Mode (ATM) node that includes means for generating an inter-nodal call control first message type comprising a single bulk release message that is to identify at least one of each of a plural number of first connections to be cleared at an ATM first node coupled to the ATM node, and each of a plural number of first connections that is one of cleared from the ATM node and to be cleared from the ATM node (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines 40-57; and col. 41 lines 11-54), the identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 1); and

means for transmitting the first message to the first node (see col. 5 lines 28-62, see figure 1).

Regarding claim 53, NISHIKADO inherently discloses means for enabling one of the generation of the first message and the transmission of the first message, in



response to an input if the ATM node was disabled, and for disabling one of the generation of the first message and the transmission of the first message in response to an input if the first node was enabled (in order to receive the release message the first exchange must be enable).

Regarding claim 54, NISHIKADO discloses means for clearing each of the first connections (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62)

Regarding claim 55, NISHIKADO discloses means for receiving a second message type containing an identification of at least one of each of a plural number of second connections in response to the first node receiving the first message type that is one of cleared from a second node and to be cleared from the second node (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62; and it is well know in the art that the release complete message is sent from the second exchange to the first exchange in response to the release message, see admitted prior art pages 1-2).

Regarding claim 57, NISHIKADO discloses means for receiving a first message type from a second node, the third message type containing an identification of a plural

number of second connections; means for interpreting the received first message type; and means for clearing the second connections from the ATM node in response to the interpreting (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62; and it is well know in the art that the release complete message is sent from the second exchange to the first exchange in response to the release message, see admitted prior art pages 1-2)..

Regarding claim 58, NISHIKADO discloses means for sending a second message type from the ATM node to the second node that identifies a plural number of third connections, the third connections characterized by at least one of the connections cleared by the ATM node in response to the interpreting, and the second connections (A connection switching exchange is requested to set up or release logical connections in group units, each of which comprise logical connections having consecutive identifiers, see col. 5 lines 28-62; and it is well know in the art that the release complete message is sent from the second exchange to the first exchange in response to the release message, see admitted prior art pages 1-2).

Regarding claims 37 and 40, NISHIKADO discloses a machine-readable medium that provides instructions, which when executed by at least one processor, cause and processor to perform operations comprising receiving an inter-nodal message by an ATM node that includes a plurality of identified connections to clear from the node (connections are setup/release in group unit, see col. 5 lines 28-62; col. 4 lines

Art Unit: 2619

40-57; and col. 41 lines 11-54), the message comprising an identifier comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers (as shown in figure 2 table 4, the list includes conservative identifiers 3-1-1, 3-1-2, 3-1-3; and non-consecutive identifiers 2-8 or 3-8-1, see figure 1).

Regarding claims 38, 41, NISHIKADO discloses the operation includes a transaction identification (assigns a connection identifier to logical connections passing through a plurality of connection switching exchanges, see claim 1).

Regarding claims 39, 42-43, NISHIKADO discloses the second and first message includes the transaction identification (issues a command to set up or release (types of message) logical connections in one of the group units with consecutive connection identifiers in the group unit to the connection switching exchanges by way of operation-control communication lines, see claim 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 31, 46, 50, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over NISHIKADO in view of MORRIS et al. (US 6,275,493), hereinafter MORRIS.

Regarding claims 16, 31, 46, 50, and 56, the NISHIKADO fails to explicitly disclose ATM node includes a database of the first connections that are cleared from the ATM node, and a data base of the first connections that are cleared from the ATM node from which are deleted the second connections in the received second message type.

MORRIS, on the other hand, discloses ATM nodes, which include ATM switches and cross-connect apparatus, use routing tables to map VCI and VPI values received in an incoming cell to outgoing values used to select an outgoing link as a way of routing the associated cell through the ATM node (see col. 1 lines 23-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made includes the teaching of MORRIS in the ATM nodes of NISHIKADO for the table or database is essential part of the ATM communication for maintaining the VCI/VPI for active connections in ATM network.

***Allowable Subject Matter***

Claims 17, 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed 11/13/2007 have been fully considered but they are not persuasive.

In response to the applicant's argument for pages 16-18:

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material.

"The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure,

Art Unit: 2619

does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter.

The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed the 1952 Patent Act.

A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)).

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

On the other hand, from a technological standpoint, a signal encoded with functional descriptive material is similar to a computer-readable memory encoded with functional descriptive material, in that they both create a functional interrelationship with a computer. In other words, a computer is able to execute the encoded functions, regardless of whether the format is a disk or a signal.

In pages 20-26, the argument for the applicant is NISHIKADO fails to disclose connections, the identification comprising a list of connection identifiers allowing both of consecutive connection identifiers and non-consecutive connection identifiers.

In response to the applicant's argument NISHIKADO discloses in col. 1 lines 62 to col. 2 lines 23 the following:

The switching table 4 is a table showing information on each pair of logical connections to be linked to each other. More particularly, the switching table 4 shows mapping relations from information on communication lines and connection identifiers assigned to the logical connections on the input side to information on communication lines used by logical connections on the output side and connection identifiers assigned to the logical connections on the output side, as well as information on attributes of the logical connections, such as band attributes. In the example shown in FIG. 2,

Art Unit: 2619

the connection identifiers 3-1-1, 3-1-2 and 3-1-3 using the communication line 2-1 on the input side are associated respectively with the connection identifier 3-8-1 using the communication line 2-8 and the connection identifiers 3-9-1 and 3-9-2 using the communication line 2-9 on the output side. In this example, the switching table 4 is provided individually for each of the communication lines 2.

Since a switching table 4 is associated with each communication line 2, information for input-side communication line 2 is not present in the switching table 4. More particularly, the switching table 4 comprises a column 41 showing connection identifiers assigned to input-side logical connections, a column 42 showing information on output-side communication lines, a column 43 showing connection identifiers assigned to logical connections using the output-side communication lines shown in the entry of column 42, a column 44 showing logical connection attributes and a column 45 showing validity bits each indicating whether the line entry is valid or invalid.

As cited above, NISHIKADO explicitly discloses the list identifier comprising consecutive connection identifiers i.e. 3-1-1 to 3-1-3 or 3-9-1 to 3-9-3 for communication line 2-1 or 2-9, respectively (see col. 41 lines 11-54). Also, the list identifier includes non-consecutive identifiers 2-8, 2-8-1 (table 4, figure 2). Therefore, NISHIKADO explicitly discloses the list identifier comprising consecutive connection identifiers and inherently discloses the list identifier comprising non-consecutive connection identifiers.

In response to applicant's argument that MORRIS is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the reference is cited only to show that in ATM network communication, routing table (database) is used to keep track active virtual connections (see col. 1 lines 22-33).

### **Conclusion**



**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

**Any response to this action should be mailed to:**

The following address mail to be delivered by the United States Postal Service (USPS) only:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:**

(571) 273-8300, (for formal communications intended for entry)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

Art Unit: 2619

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Jay Patel**, can be reach on **(571) 272-2988**. The fax phone number for this group is **(571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bob A. Phunkulh  
Primary Examiner  
TC 2600  
Technology Division 2619  
January 22, 2008

**BOB PHUNKULH**  
**PRIMARY EXAMINER**